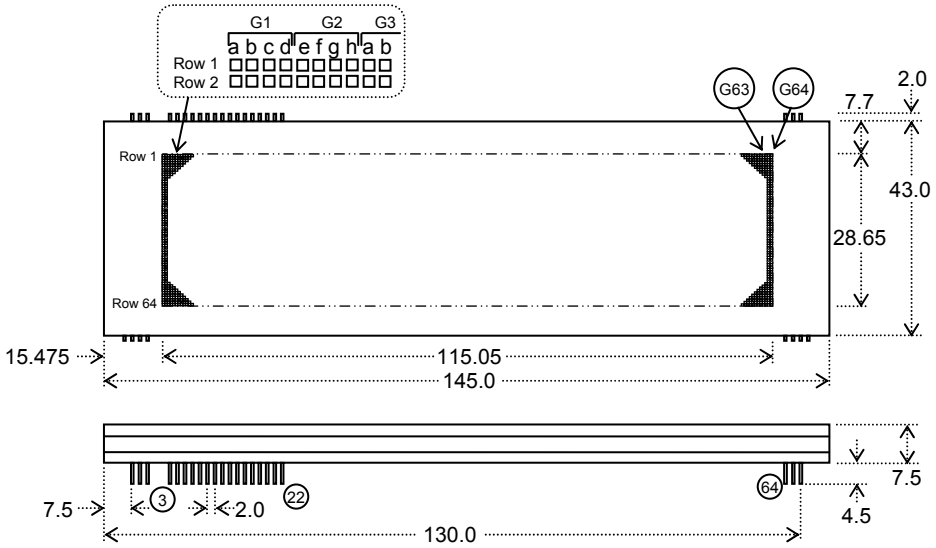
Graphic Dot Matrix Chip In Glass VFD MN25664M

- **256 x 64 Graphic Dot Matrix**
- **Chip in Glass Driver IC**
- **High Brightness Blue Green Display**
- **Synchronous Serial Interface**
- **Low Pinout Count**
- **Wide Operating Temperature**

This VF glass includes 512 & 64 bit serial shift register, latched drivers which connect to the anode and grid electrodes. An external host is required to provide a multiplexing data stream to refresh the display. The signal inputs can be connected to the ports of a CMOS microprocessor. The a.c. filament supply (F1, F2) can be derived from a source of 50KHz or 60KHz. Consult our application notes for further information.



Dimensions in mm. See full spec for tolerances

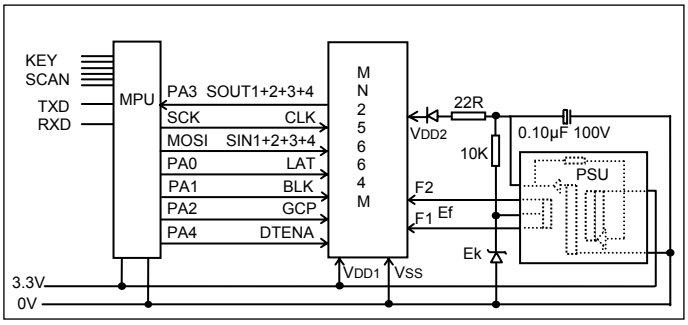
PIN OUT

Pin	Sig	Pin	Sig
1	F1	14	SOUT3
2	F1	15	SOUT2
3	F1	16	SOUT1
4	NP	17	CLK
5	NP	18	SIN1
6	V_{DD2}	19	SIN2
7	V_{SS}	20	SIN3
8	V_{SS}	21	SIN4
9	V_{DD1}	22	SOUT4
10	BLK	64	F2
11	LAT	65	F2
12	DTENA	66	F2
13	GCP		

ELECTRICAL SPECIFICATION

Parameter	Sym	Min	Typ	Max	Unit	Condition
Logic Voltage	V_{DD1}	3.0	3.3	3.6	V	V_{SS}=0V
Logic Current	I_{DD1}	-	4.0	8.0	mA	V_{DD1}=5V
Filament Voltage	E f	4.7	5.2	5.7	Vac	V_{DD2}=0V
Filament Current	I f	248	275	303	mAac	V_{DD2}=0V
Display Voltage	V_{DD2}	45.0	55.0	58.0	V	V_{SS}=0V
Display Current	I_{DD2}	-	25.0	40.0	mA	V_{DD2}=55V
Filament Bias	E_K	5.5	6.0	6.5	V	V_{SS}=0V
Logic High Input	V_{IH}	V_{DD1}x0.8	-	V_{DD1}	V	V_{SS}=0V
Logic Low Input	V_{IL}	0	-	V_{DD1}x0.2	V	V_{SS}=0V
Logic High Input	I_{IH}	-0.1	-	0.1	µA	V_{DD1}=5V
Logic Low Input	I_{IL}	-100	-40	-20	µA	V_{DD1}=5V

INTERFACE EXAMPLE

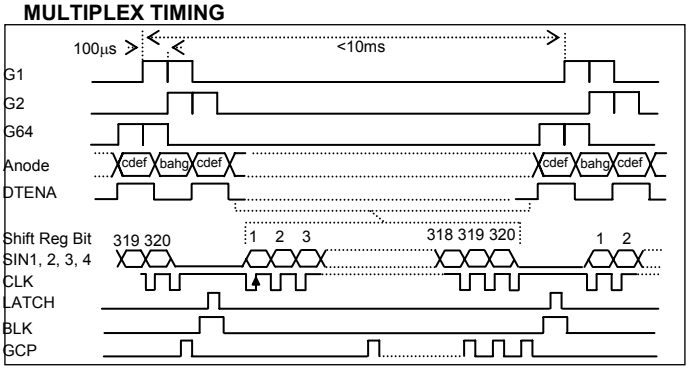


ENVIRONMENTAL and OPTICAL SPECIFICATION

Parameter	Value
Display Area (XxY mm)	115.05 x 28.65
Dot Size/Pitch (XxY mm)	0.3 x 0.3/0.45 x 0.45
Luminance	700 cd/m^2 Typ.
Colour of Illumination	Blue-Green (Filter for colours)
Operating Temperature	-40°C to +85°C
Storage Temperature	-50°C to +85°C
Operating Humidity (non condensing)	5 to 95% @ 25°C

1. The power on rise time should be less than 50ms.
2. The 22R resistor at the V_{DD2} input is required to prevent current surge during switching.
3. If scanning of the display stops with V_{DD2} applied, the BLK input must be set high to prevent damage to the display.

MULTIPLEX TIMING



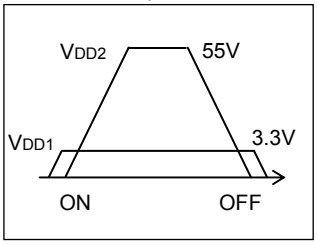
SHIFT REGISTER ASSIGNMENT

Electrode	Bit Numbers
Grid G64-G1	SIN 513-576
Row 1 'bahg'	SIN 1,3,5,7 DTENA high
Row 1 'cdef'	SIN 2,4,6,8 DTENA low
Row 2 'bahg'	SIN 9,11,13,15 DTENA high
Row 2 'cdef'	SIN 10,12,14,16 DTENA low
:	:
Row64 'bahg'	SIN 505,507,509,511 DTENA high
Row64 'cdef'	SIN 506,508,510,512 DTENA low

INTERFACE TIMING

Parameter	Time
CLK Cycle	200ns min
CLK High	80ns min
CLK Low	80ns min
SIN Setup	40ns min
SIN Hold	40ns min
LAT High	160ns min
CLK then LAT	3.41µs min
BLK Hold	3µs min

POWER SEQUENCE



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